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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,074	03/26/2004	Feng Pan	SNDK.307US1	8070
36257	7590	07/21/2005	EXAMINER	
PARSONS HSUE & DE RUNTZ LLP 655 MONTGOMERY STREET SUITE 1800 SAN FRANCISCO, CA 94111			ZWEIZIG, JEFFERY SHAWN	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,074

Applicant(s)

PAN, FENG

Examiner

Jeffrey S. Zweizig

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-25 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-32 is/are allowed.
- 6) ☒ Claim(s) 15-25 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/26/04 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cave et al. (5,563,779) in view of Applicant's Prior Art.

Fig. 2 discloses charge pump 12, a detector 16 and means for reducing capacitance 33 performing the method recited in claim 15. Fig. 2 does not appear to disclose a wordline application as recited in claim 15, however, Applicant's Background of the Invention points out that non-volatile memory wordlines require a voltage that is both constant and higher than the provided supply voltage. It would have been obvious to one of ordinary skill in the art to implement the circuit of Fig. 2 to supply a wordline for the benefit of supplying a high constant voltage. Claim 15 is obvious.

Wordlines inherently have leakage currents. Fig. 2 maintains its output against varying loads and, therefore, would maintain an output equal to the leakage current after charging the wordline. Claim 16 is obvious.

Further shown are two or more capacitors 34/36/38/40 and disabling means 42/44/46 as recited in claim 17. Claim 17 is obvious.

The reduction in capacitance would result in a reduction of voltage within the stage as recited in claim 18. Claim 18 is obvious.

Again, the reduction in capacitance would result in a reduction of voltage within the stage as recited in claims 19-21. Claims 19-21 are otherwise obvious for the reasons above.

Claims 22 and 23 are anticipated for the reasons above.

Further shown is a selectable first capacitor 36 for providing a first current to charge the output and a second capacitor for providing a second current to maintain the output as recited in claims 24, 25 and 28.

3. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokomizo et al. (6,400,211) in view of Applicant's Prior Art.

Fig. 1 discloses charge pump 3, a detector R1/R2 and a reducer 2 performing the method recited in claim 19. Fig. 1 does not appear to disclose a wordline application as recited in claim 19, however, Applicant's Background of the Invention points out that non-volatile memory wordlines require a voltage that is both constant and higher than the provided supply voltage. It would have been obvious to one of ordinary skill in the art to implement the circuit of Fig. 1 to supply a wordline for the benefit of supplying a high constant voltage. Claim 19 is obvious.

A reduction in voltage causes a reduction in current output as recited in claim 20.

Wordlines inherently have leakage currents. Fig. 1 maintains its output against varying loads and, therefore, would maintain an output equal to the leakage current after charging the wordline. Claim 21 is obvious.

Response to Arguments

4. Referring to the independent claims, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). With or without Applicant's Background of the Invention, those of ordinary skill in the art know that non-volatile memory wordlines require a voltage that is both constant and higher than the provided supply voltage. Those of ordinary skill in the art would be intuitively motivated to select such a voltage source. Cave et al. and Yokomizo et al. disclose such sources.

Referring to the independent claims, in response to applicant's argument that Examiner's combination does not address ripple reduction, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Addressing Applicant's argument with respect to claim 16, claim 16 is an inherent function of Examiner's combination. The load current and the leakage current are the same current.

Addressing Applicant's argument with respect to claims 18 and 19, the stage is 12. The reduced voltage is, for example, the voltage output from the capacitors, which is "used" by 32 and 48, which are within the stage.

Addressing Applicant's argument with respect to claims 21, 25 and new claim 28, Cave is seen disclose a non-fixed number of capacitors, which may include two capacitors, which would supply the first and second currents. Further more, the circuit inherently produces a current for charging the load.

Conclusion

5. New claims 29-32 appear to be allowable over the Prior Art of record.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Zweizig whose telephone number is (571) 272-1758. The examiner can normally be reached on Monday thru Wednesday 6:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeffrey S. Zweizig
Primary Examiner
Art Unit 2816

JZ